



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/814,815

04/01/2004

Koen Jacobus Johannes Maria Zaal

081468-0309012

5302

909

7590

06/02/2006

PILLSBURY WINTHROP SHAW PITTMAN, LLP

P.O. BOX 10500

MCLEAN, VA 22102

EXAMINER

RUTLEDGE, DELLA J

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.7A

**Office Action Summary**

Application No.

10/814,815

Applicant(s)

MARIA ZAAL ET AL.

Examiner

D. Rutledge

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,7,10-18,20 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5,7,10,25 and 26 is/are allowed.
- 6) ☒ Claim(s) 11 and 14 is/are rejected.
- 7) ☒ Claim(s) 12-18,20 and 23-30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 03/06.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabarelli et al. (US Pat. No. 4,509,852) in view of Tsukamoto et al. (US Pub. No. 2004/0036850).

Tabarelli et al. disclose an immersion exposure lithographic apparatus having a means to support the substrate 8 by vacuum suction 9, see Figs. 3 and 4. An immersion liquid 6 is exhausted from between the projection system and the substrate through the port 5. The reference does not disclose a burl plate, but Tsukamoto et al. discloses a burl plate having projection at a greater concentration at the periphery of the burl plate than at the center in Figs 11 and 12. The burl plate enables one to control the vacuum pressure and position of the substrate and would thus have motivated one of ordinary skill in the art to modify Tabarelli et al. use a burl plate.

3. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Pat. No. 5,610,683) in view of Tsukamoto et al. (US Pub. No. 2004/0036850).

Takahashi has an immersion exposure lithographic apparatus and discloses that the substrate may be held by vacuum attraction in col. 3, lines 23 – 26.

The reference does not disclose a burl plate, but Tsukamoto et al. discloses a burl plate having projection at a greater concentration at the periphery of the burl plate than at the

Art Unit: 2851

center in Figs 11 and 12. The burl plate enables one to control the vacuum pressure and position of the substrate and would thus have motivated one of ordinary skill in the art to modify Takahashi use a burl plate.

4. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Pat. No. 5,610,683) in view of Takabayashi (US Pat. No. 5,923,408). The primary reference has the basic apparatus, as discussed above, but does not disclose a burl plate. Takabayashi has a burl plate having a greater concentration of projections 11 in the medial portion of the plate than at the periphery. One of ordinary skill in the art would be motivated to use such a burl plate with the Takahashi apparatus to better control the position of the substrate.

#### ***Allowable Subject Matter***

5. Claims 12, 13, 15 – 18 and 23 – 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 1 – 5, 7, 10, 25 and 26 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose a port configured as claimed, nor a burl plate having the configuration claimed.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujimaki (US Pub. No. 2005/0151947) has an immersion exposure apparatus using EUV radiation.

***Response Data***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Rutledge whose telephone number is (571) 272-2127. The examiner can normally be reached on Mon - Thurs, 6:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
D. Rutledge  
Primary Examiner  
Art Unit 2851

dr  
5/30/06